

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
18 August 2005 (18.08.2005)

PCT

(10) International Publication Number
WO 2005/075812 A1

(51) International Patent Classification⁷: **F02M 53/04**,
61/04

(21) International Application Number:
PCT/EP2004/053219

(22) International Filing Date: 2 December 2004 (02.12.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
04001802.0 28 January 2004 (28.01.2004) EP

(71) Applicant (for all designated States except US):
SIEMENS VDO AUTOMOTIVE SPA [IT/IT]; S.S.206
- km 28 Loc. Luciana, I-56040 Fauglia/Pisa (IT).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **FACCHIN, Alessan-**
dro [I/I/IT]; Via Buffalmacco, 3, I-56122 Pisa (IT).

(74) Common Representative: **SIEMENS VDO AUTOMO-**
TIVE SPA; Peter Berg, Postfach 22 16 34, 80506 München
(DE).

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
ZW.

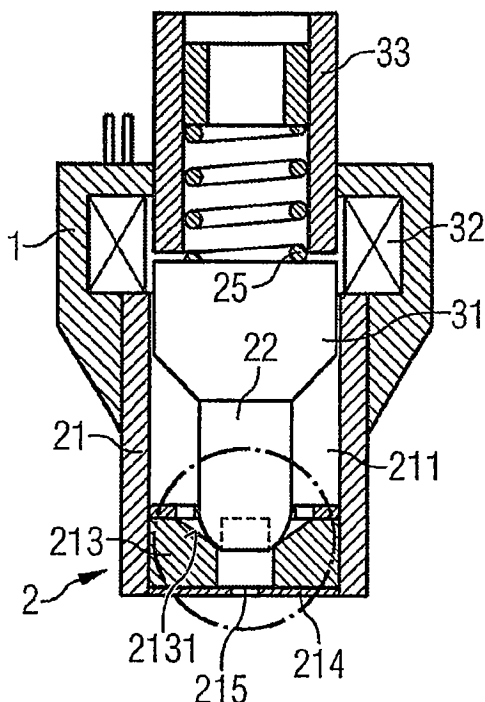
(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO,
SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN,
GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: FLUID INJECTOR WITH DEFORMABLE NEEDLE



(57) Abstract: A fluid injector comprises a housing, an actuator unit and a valve body. The valve body has a needle (22) and a cartridge (21) with a recess, which takes in the needle (22) and which comprises on one of its ends a seat plate (213), that comprises a needle seat (2132) for the inward-opening needle (22), with the needle (22) further comprising a seat part (221) with a sealing area (222), that is destined to rest on the needle seat (2132) if it is pushed against the needle seat (2132), with the seat part (221) comprising a cavity radially inwards and in proximity to the sealing area (222).